

Pennsylvania. 6th, Arizona. 7th, Illinois, Kentucky, Wisconsin, and Wyoming. 8th, Connecticut, Missouri, Nevada, and New York. 9th, Montana. 10th, California. 11th, North Dakota and Oregon. 12th, Iowa, Nebraska, and New Mexico. 13th, Colorado, Illinois, Nebraska, New York, North Dakota, and Pennsylvania.

14th, Colorado, Iowa, Nebraska, North Dakota, and South Dakota. 15th, Colorado, Michigan, New York, Ohio, and Pennsylvania. 16th, Colorado, Illinois, New Hampshire, and New Mexico. 17th, Colorado and North Dakota. 18th, Colorado, Kansas, North Dakota, and Ohio. 19th, Arkansas, North Dakota, and South Dakota. 20th, Illinois, Indiana, Iowa, Missouri, and New York. 21st, Arizona, Nebraska, and South Dakota. 22d, Arizona, Colorado, Maryland,

Michigan, and South Dakota. 22d, Arizona, Colorado, Maryland, Michigan, Minnesota, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Pennsylvania, and South Dakota.

23d, Colorado, Michigan, New Jersey, and New Mexico. 24th, Iowa, Michigan, and Ohio. 25th, Colorado, Florida, Iowa, Pennsylvania, and South Dakota. 26th, New Jersey, New York, Pennsylvania, and South Dakota. 27th, Colorado, Pennsylvania, South Dakota, Virginia, West Virginia, and Wisconsin. 28th, California, Colorado, Missouri, and Virginia. 29th, New York and South Dakota. 30th, Kansas, Nebraska, North Dakota, and Wisconsin. 31st, Arkansas, Colorado, Georgia, Iowa, Kansas, Nebraska, New Mexico, Oklahoma, Texas, Virginia, and Wisconsin.

## WINDS.

The prevailing winds for July, 1892, are shown on Chart II by arrows flying with the wind. In the New England, middle and south Atlantic, and east Gulf states, and the northern plateau regions the winds were generally from south to southwest; over the Florida Peninsula, from east to southeast; in the west Gulf states, the Ohio Valley and Tennessee, the upper lake region, the upper Mississippi valley, and over the southern and middle plateau regions, from southeast to southwest; in the lower lake region, on the northeast slope of the Rocky Mountains, and on the north and middle Pacific coasts, from southwest to northwest; in the Missouri Valley, from east to south; on the middle-eastern and southeastern slopes of the Rocky Mountains, from southeast to south; on the south Pacific coast, from west to northwest; and in the extreme northwest, variable.

### HIGH WINDS.

(In miles per hour.)

Wind velocities of 50 miles, or more, per hour were reported at regular stations of the Weather Bureau as follows: 1st, 54, se., at Kearney, Nebr.; 50, se., at Dodge City, Kans.; 50, s., at Amarillo, Tex. 3d, 90, w., at Mount Washington, N. H. 4th, 90, nw., at Mount Washington, N. H.; 54, sw., at Helena, Mont. 11th, 50, s., at Fort Canby, Wash. 13th, 56, nw., at Lexington, Ky. 20th, 60, w., at Huron, S. Dak. 22d, 50, se., at Tucson, Ariz. 24th, 64, nw., at Cleveland, Ohio; 57, nw., at Sandusky, Ohio. 25th, 56, w., at Huron, S. Dak. 27th, 60, ne., at Winnemucca, Nev.

### LOCAL STORMS.

**1st.**—A hailstorm passed over the north part of Berkeley county, W. Va., in the afternoon, leveling wheat in a path about one mile in width. Corn about Taneytown, Md., was reported damaged by hail. Several buildings were struck by lightning and burned near Paw Paw, Mich. A thunderstorm, with high wind, destroyed barns about Allison, Kans. A violent thunderstorm in the evening damaged property to the estimated value of \$50,000 about Mason, Nebr. A thunderstorm, with heavy rain, began at Kearney, Nebr., in the evening; the wind reached a velocity of 54 miles per hour from the southeast, and a barn was struck by lightning and burned. A severe storm occurred at David City, Nebr., in the evening, destroying trees and buildings at the Fair ground; one building was apparently crushed in from the northwest. A destructive hailstorm was reported in Gage county, Nebr.

**2d.**—A heavy thunder, wind, and rain storm visited Putnam, Hancock, Wood, Wyandot, and Huron counties, Ohio, in the evening. The general course of the storm was east; it developed greatest force at Carey and Bluffton, Ohio, and was last noted over Medina county. A heavy storm of wind and rain swept over Hamilton county, Ohio, between 5 and 6 p. m., causing considerable damage of a minor character. At Bluffton, Ohio, a thunder, wind, and rain storm moved east in a path about 200 feet in width at midnight, damaging buildings

to the extent of about \$5,000. Near Van Wert, Ohio, one person was killed, a number were injured, and property was destroyed by lightning. At Hassan, Ohio, a storm began 11.45 p. m., 2d, and ended 12.30 a. m., 3d; buildings were unroofed and moved from their foundations, and orchards and crops were destroyed. At Foraker, Ohio, a thunder and rain storm moved southeast in a path about 20 rods in width at night, wrecking several buildings.

A storm, with funnel-shaped cloud, was reported at Tocsin, Ind. The cloud had a whirling motion, and timber, etc., were carried up in the funnel; damage placed at \$5,000. A heavy rainstorm, with some thunder and lightning, occurred at Huntington, Ind. A severe storm, with heavy rain, moved southeast at Winchester, Ill., at 5.56 p. m. At 5.30 p. m. a severe storm moved eastward in a zigzag path 600 to 800 feet in width at Chapin, Ill., the south edge of the path touching that place. Some rain fell before, and heavy rain occurred after the passage of the storm, and hail, thunder, and lightning were reported; several persons were injured; \$2,000 damage was caused to buildings; and crops were destroyed to the estimated value of \$15,000. During a moderate thunderstorm at Springfield, Ill., the wind reached a velocity of 34 miles per hour from the south, damaging trees. An exceptionally heavy rainstorm occurred about Ottawa, Ill., in the evening. Great damage by storm was reported in Henry county, Ill.; one person was killed, four were injured, and much property was destroyed at Geneseo, Ill.

A heavy windstorm damaged timber about Austin, Tenn. At Hannibal, Mo., a thunderstorm began at 5.05 p. m. and continued during the night, damaging trees, etc. Mexico, Mo., and vicinity, was visited by a destructive storm at night; damage estimated at \$6,000. The storm was also severe at Platte River and Withers Mills, Mo. A tornado, with black funnel-shaped cloud, passed about 6 miles north of Davenport, Iowa, between 5.30 and 6 p. m. The storm moved almost due east, the course changing to southeast at times; the length of the path was about 15 miles, and its width averaged about 40 rods. It was attended by heavy rain, sharp thunder, and vivid lightning, and destroyed property to the estimated value of \$8,000 to \$10,000. Débris in the track was generally thrown eastward. In places trees on the north side of the track were thrown north, and on the south side of the track they were thrown south. The duration of the storm at any one point did not exceed 2 to 3 minutes.

**3d.**—A heavy rainstorm moved northeast over Hartford, Me. At North Buckfield, Me., a thunderstorm moved east in a path 10 to 20 rods in width at 3 p. m., causing damage to the extent of \$3,000. A thunderstorm at 2.30 p. m., damaged property to the value of \$5,000 at Paris, Me. During a heavy rain and thunder storm at Manchester, N. H., from 4 to 6.30 p. m., a house was struck by lightning. A thunder, rain, and hail storm moved northeast over Church Hill, Md., at 6.30 p. m., wrecking several buildings. Damage was caused by high

wind at Barren Creek Springs, Md. A thunderstorm, with heavy rain and high wind, prevailed at Lynchburg, Va., from 2.25 to 4.25 p. m., causing damage of a minor character. Timber was destroyed by high wind during a thunderstorm at Wickliffe, Ky. High wind damaged early corn at Austin, Tenn.

**4th.**—A thunderstorm, with southwest wind reaching 54 miles per hour, occurred at Helena, Mont., in the evening; damage was caused to buildings by heavy rain. At Fort Stanton, N. Mex., a thunderstorm, with heavy rain and some hail, began 6.18 p. m.; mountain streams were flooded, and lightning struck near the station. Stock was killed and trees were struck by lightning at Show Low, Ariz.

**5th.**—At Charleston, S. C., a severe thunder and rain storm began 8.45 p. m.; the rain was very heavy from 9.57 to 10.25 p. m., and the storm continued during the night; lightning struck in several places, and cellars were flooded. A cloudburst, with high wind, was reported north of Dudleyville, Ariz., in the afternoon.

**6th.**—A house was struck by lightning at Pensacola, Fla. During a heavy thunder and rain storm at Wetzel, Ohio, one person was killed, and property was damaged to the value of \$5,000. Some damage was caused at Salt Lake City, Utah, by a wind squall from the south of a few minutes' duration. At Tucson, Ariz., a heavy thunderstorm, with hail, began 5.45 p. m. The wind increased to an extreme velocity of 65 miles per hour, causing considerable damage to roofs, etc.

**7th.**—A house and a tree were struck and a number of persons were shocked by lightning at Pensacola, Fla. A destructive cloudburst was reported at Manitou, Colo.

**8th.**—A thunder and rain storm damaged crops and light structures at Glencoe, Minn. A hailstorm occurred at Eureka, Nev.

**9th.**—Heavy rain damaged crops about Montgomery, Ala.

**10th.**—Lightning struck in several places in northwest Lower Michigan and eastern Wisconsin; at Green Bay, Wis., a child was killed by lightning.

**11th.**—A house was struck by lightning at Crystal Springs, Miss. At Moorhead, Minn., a thunderstorm began 9.35 p. m., with light rain. In a few minutes a second black cloud advanced rapidly from the west; when the cloud was directly overhead rain fell in torrents, and the wind changed from southeast to northwest, increased to 43 miles per hour, and continued high until midnight; one building was struck by lightning. A heavy thunder and hail storm began at Bismarck, N. Dak., at 7 p. m., and lasted 40 minutes; .72 inch of rain fell in 27 minutes, and hail fell 12 minutes; the wind reached a velocity of 46 miles per hour. Buildings were blown down during a thunderstorm in Traill county, N. Dak. High wind destroyed several buildings in Steele county, N. Dak. Lightning struck several buildings and hail damaged crops about Grand Forks, N. Dak.

**12th.**—A thunderstorm between 3 and 4 p. m. caused minor damage at Jacksonville, Ill. A thunderstorm occurred at Grand Haven, Mich., in the evening. Trees and outbuildings were blown down during a thunderstorm at Harvey, Wis. Cattle were killed by lightning at Plover, Wis. A severe thunderstorm visited Whitewater, Wis., in the evening. The storm was severe about Janesville, Wis. A thunder, rain, and hail storm caused damage south of Dubuque, Iowa, in the evening. During a thunderstorm at Davenport, Iowa, in the evening, the wind reached an extreme velocity of 60 miles per hour, and the temperature fell 20° in 18 minutes.

**13th.**—A thunderstorm, with heavy rain and small hail, occurred at Corning, N. Y. A man was struck by lightning at Rochester, N. Y. During a thunderstorm at State College, Pa., about noon, a barn was struck by lightning. At Springfield, Ohio, a thunderstorm appeared in the west about 11 a. m. Two clouds, one from the northwest and one from the southwest, rushed together, and a dark, funnel-shaped cloud descended to the ground. The tornado moved eastward in a path about 200 feet in width. The course changed to south

60° east, and at that point a substantial brick building appeared to burst, the walls falling outward down to the first floor, and many buildings were prostrated or badly damaged. After changing its course the path of the storm widened to about 400 feet, and there was evidence of violent upward and whirling motions. After moving southeastward several blocks the storm again assumed an easterly course. During the passage of the tornado many strong buildings were demolished, trees and timbers were thrown in all directions, but mostly southward, and upward of 2,000 shade trees were destroyed; damage to property estimated at \$20,000.

At Springfield, Ill., a thunderstorm, with heavy showers of rain, prevailed from 7.52 to 9.46 a. m.; in the neighboring country damage was caused by heavy rain, and cattle were killed by lightning. A violent rain and thunder storm occurred at Fairport, Mich. An exceptionally severe thunderstorm prevailed at Bismarck, N. Dak., from 8.30 p. m. until midnight; hail fell for 5 minutes, commencing at 10.20 p. m., and several houses were struck by lightning. During a thunderstorm at Grafton, N. Dak., considerable damage of a minor character was caused by high wind. A heavy thunderstorm occurred at Warrensburg, Mo. A house was struck by lightning at Saint Louis, Mo., in the early morning. During a thunderstorm at Kansas City, Mo., in the afternoon, 2 persons and 2 houses were struck by lightning. A thunderstorm, with high wind, caused some damage at Sedalia, Mo. A barn was struck by lightning and burned at East Lynne, Mo. Heavy rain flooded streams about Lead Hill, Ark.

**14th.**—A severe thunderstorm was reported at Paterson and New Brunswick, N. J., in the evening. At Knoxville, Tenn., a heavy thunder and rain storm from the west prevailed from 1.40 to 2.30 p. m.; one house was struck and one person was stunned by lightning. Severe thunder and rain storms occurred about Chattanooga, Tenn.; at Highland Park 2 men were struck and 3 men were shocked by lightning. During a thunderstorm in the early morning at Kansas City, Mo., a church was struck by lightning. Damage was caused by high wind about Marshall, Iowa. A heavy thunder and rain storm occurred at Boone, Iowa. A thunderstorm, with high wind, caused damage about Des Moines, Iowa. A wind and hail storm damaged crops south and southwest of Alta, Iowa. Damage was caused by hail in south-central Nebraska. At Haigler, Nebr., 2 houses were struck by lightning. During a thunderstorm in the early morning at Rapid City, S. Dak., a house was struck by lightning.

**15th.**—A church was struck by lightning at Burlington, Vt. A thunderstorm, with high wind, moved east over Bridgeport, N. Y.; one person was killed. Damage was caused by high wind during a thunderstorm at Fulton, N. Y. During a thunderstorm at Rochester, N. Y., in the evening, 2 houses and 4 street cars were struck by lightning, electric wires were damaged and trees blown down. A severe thunderstorm, with hail and high wind, occurred at Buffalo, N. Y., in the evening. A thunderstorm caused some damage about Mount Morris, N. Y. At Erie, Pa., a building was struck by lightning and another was blown down. A thunderstorm occurred at Pittsburg, Pa., in the evening. A thunder and hail storm was noted at Grampian Hills, Pa. At Washington, D. C., a man was killed by lightning. A house was struck by lightning at Pensacola, Fla. A heavy rain, wind, and thunder storm in the afternoon caused damage at Cincinnati, Ohio. A thunderstorm, with high wind, occurred at Jeffersonville, Ind. Crops, orchards, etc., about Covington, Tenn., were damaged by high wind.

Damage to the extent of about \$10,000 was caused by a thunderstorm at Louisville, Ky., in the afternoon. The storm continued from 4.50 to 5.30 p. m.; the wind reached a velocity of 44 miles per hour from the west; and the temperature fell 25°. Some destruction was caused about Harrodsburg and Lagrange, Ky., by a thunderstorm. Damage was caused by heavy rain about Shelbyville, Ky. High northwest winds prevailed at Sault Ste. Marie, Mich. The gale was also severe

over northern Lake Michigan and northern Lake Huron. At Alpena, Mich., a violent thunderstorm from the west began 11.45 a. m. and ended 1 p. m. A destructive rain, hail, and wind storm occurred north of Alpena about noon. Damage was caused by high wind about Platte River, Mo. At Concordia, Kans., a heavy thunderstorm, with high wind, moved from the northwest at 7.30 a. m. A violent thunder and rain storm from the northeast occurred at Conway, Ark.

**16th.**—At Kiowa, Kans., a thunderstorm began 6 p. m. and ended 7 p. m.; 2.20 inches of rain fell; damage was caused by wind; and a house was struck by lightning. A thunderstorm, with high wind, occurred at Pueblo, Colo., in the evening; the temperature fell 25°; and damage was caused to trees, etc.

**17th.**—One person was reported killed by lightning in Warren county, N. J. A building was struck, and stock was killed by lightning near Ocala, Fla. A heavy thunder and rain storm moved east over Vicksburg, Miss., in the afternoon. A man and a horse were killed by lightning at Oberlin, Kans.

**18th.**—A destructive thunder, rain, and wind storm occurred at Chattanooga, Tenn., in the afternoon. A thunderstorm, with exceptionally heavy rain, damaged crops about Red Wing, Minn. An unusually severe thunder and rain storm occurred at Moorhead, Minn., in the early morning; 2 horses were killed by lightning. During a thunder and hail storm in the afternoon at Ashland, Kans., buildings were damaged to the extent of about \$3,000.

**19th.**—An exceptionally heavy rainstorm visited Richmond, Va., at night. During a thunder and rain storm at Chattanooga, Tenn., in the evening, a house was struck and 2 persons were stunned by lightning. In the afternoon a barn was struck by lightning and burned at Mottville, Mich. A thunderstorm in the morning caused some damage about Red Wing, Minn. Severe thunderstorms, with high wind and heavy rain, occurred in South Dakota at night, causing considerable damage to buildings, stock, and crops. At Gettysburg, S. Dak., a funnel-shaped cloud was reported; heavy rain and hail fell; 2 persons were killed; and the estimated damage to property was \$25,000. At Courtland, S. Dak., the storm was violent, with heavy rain and large hail.

At Pierre, S. Dak., the wind reached a velocity of 42 miles per hour from the north, prostrating the telegraph line between Pierre and Huron. Stock was killed by lightning and buildings were blown down at De Smet, S. Dak. Buildings were blown down at Aberdeen, S. Dak., and 2.52 inches of rain were recorded from 11.30 p. m., 19th, to 1.15 a. m., 20th. The damage at Wolsey, S. Dak., was placed at \$2,000. At Clark, S. Dak., trees were blown down and light buildings overturned. The damage to property at Watertown, S. Dak., was placed at \$5,000. At Huron, S. Dak., a thunderstorm began at 12.45 a. m., 20th, and continued 2 hours; the wind reached an estimated velocity of 75 miles per hour in a straight blow from the west, and considerable damage was caused to buildings, etc. At Ellendale, N. Dak., one person was reported killed by lightning.

**20th.**—A heavy thunderstorm occurred in the morning at Kittyhawk, N. C., and a whirlwind and waterspout were reported at Killdevil Hills Life Saving Station, where a house was moved from its foundations, and a trough 3 to 4 feet in depth and width was cut in the sand. A severe thunderstorm from the northwest, with heavy rain, occurred at Wilmington, N. C., in the afternoon. Destructive thunderstorms occurred in Illinois. At Olney, Ill., trees, etc., were blown down. Damage was caused by wind at Effingham and Walker, Ill. At Monticello, Ill., several houses were struck by lightning, 2 persons were injured, and bridges were carried away as the result of heavy rain. At Springfield, Ill., a thunderstorm began 2.25 p. m. and ended 4.11 p. m., with rain at intervals; the temperature fell 19° in 20 minutes; the wind reached a velocity of 32 miles per hour from the northwest; buildings and crops were damaged; and stock was killed by lightning.

At Saint Louis, Mo., a northwest gale began 2.48 p. m., with wind 48 miles per hour for 10 minutes; the temperature fell from 93° at 2 p. m. to 71° at 3.15 p. m., a fall of 15° being noted in the first five minutes of that period; no serious damage reported. A house was unroofed at Washington, Iowa. During a thunderstorm, with high wind, at Keokuk, Iowa, the temperature fell 22° in 10 minutes. In the early morning a house was struck by lightning at Des Moines, Iowa. At Omaha, Nebr., a thunderstorm was observed approaching from the southwest at 12.10 a. m. At 12.50 a. m. the wind changed suddenly from southwest, velocity 10 miles per hour, to west, velocity 60 miles per hour, causing considerable damage to buildings, etc.

**21st.**—A windstorm destroyed frail buildings at Hiteman, Iowa. At Murray, Iowa, a severe thunderstorm, with high wind, occurred at night; 2 barns were struck and stock was killed by lightning. Lightning struck several buildings at Mason City, Iowa. A heavy thunderstorm began about 6 p. m. at Omaha, Nebr.; high wind damaged unfinished buildings; rain fell in torrents; some hail was noted; and the temperature fell from 98° at 6 p. m. to 68° at 7 p. m. At Beemer, Nebr., a barn was struck by lightning and burned.

**22d.**—A thunderstorm, with high wind, occurred at Oswego, N. Y., in the afternoon; the Telephone Exchange office was set on fire. A thunder and hail storm damaged property about Bradford, Pa., to the estimated value of \$25,000. Some damage was caused by lightning at State College, Pa. At Moorhead, Minn., a thunder and hail storm prevailed from 1.20 to 2.30 p. m.; the wind reached a velocity of 36 miles per hour, causing some damage to roofs and chimneys, and damage by hail was reported east of Moorhead. An exceptionally severe thunderstorm, with some hail, occurred at Fort Buford, N. Dak., in the early morning; garden vegetables were destroyed, a ferry boat was sunk, railroad tracks were washed out, and lightning destroyed the anemometer wire at the Weather Bureau office. Shade trees were blown down during a thunderstorm at Fargo, N. Dak.

**23d.**—A destructive windstorm occurred west of Adairsville, Ga. During a thunderstorm at Riley, Ill., 1.00 inch of rain fell in 28 minutes, and some damage was reported by lightning north of that place. A house was struck by lightning at Larrabee, Iowa.

**24th.**—A thunderstorm prevailed at Rochester, N. Y., from 8.30 to 10.50 p. m. A building was struck by lightning at Carthage, N. Y. At Parkersburg, W. Va., a thunderstorm, with high wind and heavy rain, began 11.15 p. m., 24th, and ended 12.20 a. m., 25th; a house was struck by lightning and great damage was caused by wind and rain along the railroads. In the evening a house was struck by lightning at Montgomery, Ala. At Toledo, Ohio, a thunderstorm, with high wind and heavy rain, prevailed from 5.30 to 6.55 p. m.; the temperature fell 25° in 20 minutes; the wind attained a velocity of 49 miles per hour from the northwest, with an extreme velocity of 60 miles per hour; some damage was caused by wind and lightning. At Sandusky, Ohio, the wind reached a velocity of 60 miles per hour from the northwest at 7 p. m.; many large trees were blown down; a man was killed by lightning, and a boy was killed by a falling limb of a tree.

At Cleveland, Ohio, a blinding flash of lightning, a terrific report of thunder, and a downpour of rain occurred at 6.37 p. m., followed at 6.40 p. m. by large quantities of hail. The hail continued 20 minutes, and the thunderstorm until 7.05 p. m., when it suddenly ended, to begin again, with heavy rain at 7.30 p. m.; .32 inch of rain fell in 5 minutes during the second storm; great damage was caused by hail and heavy rain. Considerable damage was caused by high wind, heavy rain, and hail throughout northern Ohio.

In the afternoon lightning struck in several places about Nashville, Tenn. Trees and crops were prostrated about Nunnely, Tenn., during a thunderstorm. Damage was caused by lightning at Sturgis, Mich. During a thunderstorm, with hail, at Jonesville, Mich., lightning struck in several places, and

trees were blown down. A barn was struck by lightning at Harvey, Wis. One person was killed by lightning at Parkston, S. Dak. Buildings were damaged during a severe thunderstorm at Clermont, Iowa.

**25th.**—A barn was struck by lightning near Quaker Street, N. Y. A heavy thunderstorm, with hail, occurred at Port Richmond, Pa. A thunderstorm caused some damage about Philadelphia, Pa. A thunderstorm, with high wind and heavy rain, occurred at Beverly, N. J. Heavy rain, attending a thunderstorm in the evening, caused great damage about Ella, W. Va. Lightning and high wind in the afternoon damaged property at Parkersburg, W. Va.; a large barn was struck by lightning and burned; loss about \$6,000. A heavy thunder and rain storm occurred at Livingston, Ala., from 7.30 to 8 p. m.; 1.28 inch of rain fell; a house was struck, and a number of persons were shocked by lightning. At Greenville, Miss., a church was struck by lightning. Some stock was killed and a man was stunned by lightning at Covington, Tenn. A child was killed by lightning at Paducah, Ky. A barn was struck by lightning at Alpena, Mich. A house was struck by lightning at Plover, Wis. Grain was destroyed by hail about Algona, Iowa.

**26th.**—In the early morning 3 barns at Berlin and one barn at Williams, Vt., were struck by lightning and burned. A thunderstorm, with violent gusts of wind, occurred at Ithaca, N. Y., in the early morning; a hotel was struck by lightning. A thunderstorm, with heavy hail, caused damage to the extent of about \$10,000 about Pine Grove, Pa. One person was killed by lightning at Philipsburg, Pa. A horse was killed by lightning at Stanardsville, Va. The roof of the Weather Bureau office building at Tampa, Fla., was struck by lightning in the evening. Lightning struck in several places about Thornville, Mich.; one barn was struck by lightning and burned. A severe thunderstorm prevailed at night at Barron, Wis.; a man was killed by lightning near Barron and a house was struck by lightning at Dallas, Wis. Heavy rain at Minneapolis, Minn., flooded sewers and interrupted street traffic. In Saint Paul, Minn., the damage from heavy rain was estimated at \$250,000. The railroad depot at Eggleston, Minn., was struck by lightning and burned. A heavy wind and rain storm passed over Flandreau, S. Dak.; 1.00 inch of rain fell in 25 minutes, and crops were damaged. A house was struck by lightning at Amarillo, Tex.

**27th.**—A thunderstorm from the west visited Hess Road Station, N. Y., at 3.45 p. m.; 5 houses were struck by lightning; buildings were injured, and a large number of trees were destroyed by high wind; 2.10 inches of rain fell, and crops in a path about 1 mile in width were flattened. A violent storm struck York, Pa., at 1.22 p. m. and ended 1.50 p. m.; one person was killed by lightning, and considerable damage was caused by high wind. During a thunderstorm at Lebanon, Pa., a mill was wrecked by wind. High wind caused damage at East Earl, Pa. Damage to the extent of \$3,000 to \$4,000 was caused by a thunderstorm at Terre Hill, Pa. Damage of a minor character was reported at Columbus, N. J. A thunderstorm, with light hail, occurred at Stony Man, Va. At Luray, Va., one person was killed by lightning during a thunder and hail storm. Two persons were killed, and 3 barns were struck by lightning at Culpeper, Va.

Damage was caused at Milton, W. Va., by a thunderstorm. During a thunderstorm in the afternoon at Parkersburg, W. Va., a number of persons were shocked, and 40 telephone wires were burned out by lightning. At Toledo, Ohio, a

thunderstorm from the west began 1 p. m. and ended 2.30 p. m.; the temperature fell from 91° to 68°; and a house was struck by lightning. Buildings were damaged during a thunderstorm at Massillon, Ohio. Three houses were struck by lightning at Portsmouth, Ohio. Buildings were unroofed at Wooster, Ohio. Lightning struck in three places at Wauseon, Ohio. Severe storms occurred in Lower Michigan in the early afternoon. At Detroit, Mich., lightning struck in two places, and the temperature fell from 91° to 68° in about 5 minutes. A house was struck by lightning at Windsor, Ont. At Alpena, Mich., a thunderstorm occurred in the early morning, and a second thunderstorm prevailed from 8.10 to 10.50 a. m.; a large number of telephone wires were burned out. A man and a horse were killed by lightning at Green Bay, Wis. During a thunderstorm in the evening at La Crosse, Wis., a church spire and several trees were struck by lightning; damage by lightning was also reported in the surrounding country.

A heavy thunder and wind storm occurred at Larrabee, Iowa; a house was struck by lightning. A child was struck by lightning and killed near Concord, Iowa. At Sioux City, Iowa, a heavy thunderstorm from the south began 4 p. m.; heavy rain began 4.30 p. m., 1.40 inch falling in 1 hour; the temperature fell from 99° to 65°; considerable damage was caused by high wind and heavy rain, and lightning struck in several places. At Red Wing, Minn., a thunder and rain storm occurred in the early morning; a house was struck by lightning. A second storm occurred in the evening, during which the wind reached 36 miles per hour; damage was caused by wind, and trains were delayed by washouts. A northeast gale, with maximum wind velocity 60 miles per hour, occurred at Winnemucca, Nev., in the evening.

**28th.**—During a thunderstorm in the evening at New Haven, Conn., a house was struck by lightning and damaged to the extent of \$3,500. A thunderstorm, with heavy rain, occurred at Lynchburg, Va., in the afternoon; 2.00 inches of rain fell in 9 hours; the temperature fell from 96° to 68°; and hail fell south and southwest of Lynchburg. Crops about Springdale, Tenn., were injured by a thunder and wind storm. A wind squall damaged trees, etc., in northwest part of Indianapolis, Ind. Telephone wires were burned out during a thunderstorm at Alpena, Mich.

**29th.**—Several barns were struck by lightning and burned at Burlington, Vt. At Pittsburg, Pa., thunderstorms occurred at intervals during the afternoon; in the suburb of Highland Park 3 persons were killed and 4 were seriously injured, and much loss to property was reported. Four barns were struck by lightning at Edinboro, Pa. A house was struck by lightning at State College, Pa. Damage was caused by a thunderstorm at Harrisonburg, Va. At Portsmouth, Ohio, a house was struck and several persons were shocked by lightning.

**30th.**—A hailstorm occurred in the evening at Wahpeton, N. Dak.; glass was broken and wheat destroyed. A thunderstorm was reported at Oberlin, Kans.

**31st.**—A schooner was struck by lightning at Solomons, Md. Corn and cotton were damaged by hail south of Augusta, Ga. High wind caused damage about Poulan, Ga. A thunderstorm, with high wind and heavy rain, damaged crops, etc., about La Crosse, Wis. At Sparta, Wis., a heavy windstorm, with thunder, lightning, and small hail, was reported; a church steeple was struck, and one person was severely injured by lightning. A thunderstorm passed north of Dubuque, Iowa, between 5 and 6 p. m.; heavy rain flooded streets and damaged crops.

## INLAND NAVIGATION.

### FLOODS.

The month opened with rivers above the danger-line as follows: At La Crosse, Wis., 0.6 foot; Dubuque, Iowa, 0.4 foot; Davenport, Iowa, 1.7 foot; Keokuk, Iowa, 5.0 foot; Hannibal,

Mo., 3.8 feet; Helena, Ark., 1.0 foot; Arkansas City, Ark., 3.5 feet; Vicksburg, Miss., 5.4 feet, and New Orleans, La., 3.1 feet. On the 3d the Mississippi River fell below the danger-line at Dubuque, Iowa. On the 4th the river rose above